DOCUMENT RESUME

ED 239 664 JC 830 825

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TITLE Stress in Professionals and Non-Professionals, Men and Women.
PUB DATE 25 Mar 83
NOTE 4p.
PUB TYPE Collected Works - Serials (022) -- Reports - Research/Technical (143)
JOURNAL CIT Innovation Abstracts; v5 n9 Mar 25 1983

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Anxiety; Clerical Occupations; Emotional Problems; Females; *Helplessness; Hypertension; Individual Power; Literature Reviews; Males; *Nonprofessional Personnel; *Personal Autonomy; *Physical Health; Professional Occupations; *Sex Differences; *Stress Variables; Teaching (Occupation)
IDENTIFIERS PF Project

ABSTRACT

Researchers are finding that high demands plus low control over how the job is done make a job stressful. According to Professor Robert Karasek of Columbia University, the statistics on heart disease and high blood pressure prove that nonprofessional workers such as typists are under more stress than professional workers such as teachers. Dr. Marianne Frankenhauser of Sweden has isolated stress hormones often connected with heart attacks and strokes. One group of hormones is associated with adrenaline which increases with tension; the other is cortisol, which is connected to feelings of anxiety. According to Dr. Frankenhauser, when a person is given more control over his tasks, the cortisol level will lower even though the adrenaline level may remain high. The worker will make effort without distress. Another difference between teaching careers and the typist's job is that the typist's job is less interesting which causes boredom, frustration, and a decline in self-esteem. Women seem to cope better with stress than men, according to Dr. Frankenhauser, but women seem to have more stress to handle. Sociologists find that people with monotonous jobs learn to be passive and do not tend to seek stimulation after work. There are positive ways in which a person can relieve stress such as physical exercise, assertiveness training, and the positive sharing of gripes. (EM)

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by Naomi Barko

Innovation Abstracts; v5 n9 March 25, 1983

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INNOVATION ABSTRACTS VOL V NO. 9

Published by the National Institute for Staff and Organizational Development
With support from the W. K. Kellogg Foundation

STRESS IN PROFESSIONALS AND NON-PROFESSIONALS, MEN AND WOMEN

At several universities here and abroad, researchers are finding that it isn't just high demands that make a job stressful; it's high demands plus low control over how the job is done. A faculty member preparing a lecture for a class may be working under stress--but she's not under as much stress as the office worker who must finish typing the faculty member's 100-page syllabus by five o'clock that afternoon. The professional has more control. If time gets too tight, she might rearrange or cancel her appointments. She might hire a second typist, and might, in a pinch, postpone handing out the syllabus. The typist has few such options. He simply plugs along.

The proof that the non-professional worker is under more stress, says Professor Robert Karasek of Columbia University, is found in the statistics on heart disease and high blood pressure. Using detailed health surveys and studies of characteristics of various jobs, Dr. Karasek has identified *three major factors leading to high-stress-related disease: high demands, low control, and a low level of physical exertion.* Of the three, Karasek says emphatically, "Low control is the strongest factor." The workers with the most heart disease are found on assembly lines. Among women, the highest rates (besides those of assembly-line workers) are found among waitresses, nursing aides, and the vast army of office workers.

Just as fascinating as Dr. Karasek's findings are those of Professor Marianne Frankenhauser, an internationally known stress researcher, who is head of the psychology department of the Karolinska Institute in Stockholm, Sweden. For several decades, Dr. Frankenhauser has been analyzing blood and urine samples of workers who were under different kinds of stress. She has isolated stress hormones often connected with heart attacks and strokes. One group of hormones is associated with adrenaline, the hormone that increases when we tense up to make a special effort or to face danger. Another is cortisol, which is connected to feelings of anxiety or distress. The body of a worker under pressure, says Dr. Frankenhauser, will produce more of both adrenaline and cortisol. "Effort with distress," she reports, "is probably the state most typical of our daily hassles." When a person is given more control over her task, the cortisol level will lower significantly, even though the adrenaline level may remain high. The worker will make effort without distress. This is the feeling one gets from a good job well done and is much healthier for the body.

In the laboratory, Dr. Frankenhauser induced what she calls this "joyous and happy state" by setting up a task in which each participant was encouraged to try out different rates of speed and to choose the one at which he or she felt most comfortable. Even after the task was started, those taking part in the experiment were allowed, every five minutes, to change the work pace if it seemed to have become too fast or too slow. At the same time, another group was instructed to perform the same task at a speed set by the researcher. Adrenaline and cortisol levels both went up in the control group, which reported feelings of both effort and distress. In the group that set its own work speed, the cortisol levels fell, and the subjects said the work was "pleasant and stimulating."

Another obvious difference between teaching (e.g., professional careers) and the typist's job (e.g., non-professional careers) also affects stress levels. The teacher's work is more interesting. The teacher is working out her strategy, planning her classes, looking up background information, anticipating her students' reactions. She is so job-involved that she may not even realize until the end of the day or after sev-

eral days that she is tired from working so hard. The typist, on the other hand, is far more likely to be bored. Her work is monotonous. She may not even know the meaning of much of the jargon she is typing. The lower her status in the office, the less her opportunity to do work other than typing, especially work that involves her with other people. In the language of psychologists, her central nervous system is being understimulated; her normal human need for social interaction is not being satisfied. In extreme cases, says Dr. Frankenhauser, the brain processes of the typist will actually slow down. Her work will suffer. She'll feel alienated--not able to take initiative or to become involved. "The highest rates of total fatigue or exhaustion are associated with the highest reports of monotony on the job . . . . Performing the same set of routines without the chance to learn new skills can lead to boredom, frustration and a decline in self-esteem."

Women seem to cope with stress more efficiently than men do. At least women did in tests that Dr. Frankenhauser conducted. In one experiment, subjects were asked to name a color flashed on a screen, while, simultaneously, the name of a different color was spelled out in print and a voice called out the name of a third color. In situations like this, the adrenaline of the men rose significantly higher than that of the women, leading scientists to speculate that women may have a more "economical" way of coping with stress. This sex difference existed even in children as young as four-years-old. That may be why men still have more heart attacks than women do.

The not-so-good news is that as women move into formerly male occupations, their adrenaline levels under stress seem to rise almost, although not entirely, as much as the men's. When Dr. Frankenhauser gave her tests to a group of male and female engineering students, that is exa tly what happened. (Perhaps not all women's bodies behave this way, the doctor speculates. Perhaps these particular women chose to become engineers precisely because they were high-adrenaline people. Perhaps they were simply learning more "male" behavior. The facts are not all in.)

Most interesting of the sex differences was the way men and women in the experiments perceived their own performances. Though the women consistently did a little better on the tests, the men felt better about their performance. Males reported "confidence, effort and satisfaction." But females reported "distress, worry and dissatisfaction." Dr. Frankenhauser has not drawn conclusions. But her discoveries seem to show that if women's bodies really do cope better with stress, women seem to have more stress to handle. Whatever their subjective feelings, low-control, monotonous jobs and a double load of job-work and housework add up to powerful stressors.

Sociologists find that people with monotonous jobs that leave them little room for initiative learn to be passive. They tend not to seek stimulation after work in interesting hobbies; nor do they take classes or engage in activities that might change some of the causes of their stress.

There are positive things that you can do to relieve stress, such as physical exercise--always a good way of letting off steam and reducing your chances of heart disease. Griping, you may be surprised to learn, is good for you because it gives you a chance to release your anger. The problem is how to avoid transferring your anger to someone else who probably needs it as little as you do. Some people take assertiveness-training courses to learn to express their feelings effectively. Sharing is a good stress buffer. If you share your gripes with people at work instead of snapping at each other, you may not only feel better but may be able to think of ways to change some of your worst irritants.

Naomi Barko, Editor, Newsletter of Women's Occupational Health Resource Center, Columbia University, New York

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KAREN WATKINS, EDITOR
March 25, 1983, VOL V, NO. 9

INNOVATION ABSTRACTS is a publication of the National Institute for Staff and Organizational Development, EDB 348, The University of Texas at Austin, Austin, Texas 78712, (512) 471-7545. Subscriptions are available to nonconsortium members for $35 per year. Funding in part by the W. K. Kellogg Foundation and the Fund for the Improvement of Post-Secondary Education. Issued weekly when classes are in session during fall and spring terms and bimonthly during summer months.

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